

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Causmex Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE  
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'A99ar'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 30th day of December in the year of our Lord one thousand nine hundred and eighty-two

Attest:

*Kenneth A. Egan*  
Acting  
Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service

*John R. Block*

Secretary of Agriculture



UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED  
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY <b>A99ar</b>		1b. VARIETY NAME <b>A99ar</b>		FOR OFFICIAL USE ONLY PV NUMBER <b>8200159</b>	
2. KIND NAME <b>Wheat common</b>		3. GENUS AND SPECIES NAME <b>Triticum aestivum</b> 20 9/1/82		FILING DATE <b>8/24/82</b>	TIME <b>12:30</b> <del>XXX</del> P.M.
4. FAMILY NAME (BOTANICAL) <b>Graminea</b>		5. DATE OF DETERMINATION <b>A99ar Sept. 1980</b>		FEE RECEIVED \$ <b>500.00</b> \$ <b>250.00</b>	DATE <b>8/24/82</b> <b>11/15/82</b>
6. NAME OF APPLICANT(S) <b>Causmex Corp.</b>		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>425 Myrtle, El Paso, Tex. 79901</b>		8. TELEPHONE AREA CODE AND NUMBER <b>(612) 275-2870</b> 20 9/1/82	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) <b>Canadian, American, Mexican Corp.</b>			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION <b>Tex. Jan. 1982</b>		11. DATE OF INCORPORATION <b>Jan. 1982</b>

Canadian, American, Mexican Corp.

Tex. Jan. 1982

Jan. 1982

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:

**Kermit L. Greenley, 710 Willis St., Dassell, MN 55325**

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☒ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☒ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?  
☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?  
☒ FOUNDATION ☐ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☐ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

**February 10, 1982**  
(DATE)

(DATE)

**Causmex Corp.**  
(SIGNATURE OF APPLICANT)

**Kermit L. Greenley**  
(SIGNATURE OF APPLICANT)

## Exhibit 13A

## A99ar Breeding History and Characteristics:

The original cross of this development was made in Saskatchewan in 1968. The parentage was a hard, red spring composite of Canadian and United States lines, and a Mexican release experimental line. The F<sub>1</sub><sup>1</sup> was grown out in the winter of 68-69 in Arizona. F<sub>2</sub><sup>head 9/03/82</sup> selections were made in the summer of 69 in Saskatchewan with definite segregation selections of normal beardless, semi dwarf beardless, normal bearded and semi dwarf bearded. F<sub>4</sub> segregations were grown in Saskatchewan in the summer of 71 with specific classifications of the four prominent segregations. The F<sub>5</sub><sup>head 9/03/82</sup> lines were grown in Yuma the winter of 71-72 and phenotypically similar lines were bulked. Subsequent testing in replicated plots in the Northwest isolated two lines known as CMB and CMS.

CMS showed substantial advantage in yield and grain quality. This selection was then designated A99 and was increased substantially for larger scale farm tests.

However, in 1976 there were indications that under adverse conditions, ergot infections were apparent. Reselections were immediately started and increased along with yield trials. The reselection of A99ar shows slightly improved yield, no apparent susceptibility to ergot and somewhat less lodging factor.

1 eventually released as 'Zaragoza' 9/03/82

The selection is consistently stable and very uniform in growth habits, height, and plant type. There are no variants except as cited in Exhibit D.

9/03/82

A99ar does not have a very close counterpart in the Hard Red Spring Wheat class. <sup>In comparisons A99ar is most similar to Eller and Waldron. 08 7/03/82</sup> By comparison, it has a heavy strong straw like Eller and Waldron, but does not show the purple stem coloring characteristics of these two public varieties. A99ar is 5-7 cm. taller than these varieties and approximately 6-7 days later in maturity. A99ar is novel in that the head is considerable more lax than other beardless H.R.S. wheat varieties.

The seed of A99ar is a deep, rich, red brown under the normal growing conditions, however, seed color will be lighter colored when grown under the more southern areas of adaptable regions. In comparison with other public H.R.S. wheat varieties, A99ar seed is somewhat longer, with a more oval shape somewhat remindful of the general shape of winter wheat. The suture is inconsistent, varying from open and angular to rounded and narrow. A very small fraction of a percentage of the kernels will have a shriveled structure of the suture. The variables of the suture is not consistent with the very acceptable uniformity of the phenotype.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY  
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

FOR OFFICIAL USE ONLY

CAUSMEX CORPORATION, Kermit L. Greenley

PVPO NUMBER 8200159

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

710 Willis St.  
Dassel, MN 55325

VARIETY NAME OR TEMPORARY DESIGNATION

A99ar

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (e.g. 0 8 9 or 0 9 ) when number is either 99 or less or 9 or less.

## 1. KIND:

1 ☒ 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

## 2. TYPE:

1 ☐ 1 = SPRING 2 = WINTER 3 = OTHER (Specify) \_\_\_\_\_ 2 ☐ 1 = SOFT 3 = OTHER (Specify) \_\_\_\_\_  
2 ☐ 2 = HARD

2 ☐ 1 = WHITE 2 = RED 3 = OTHER (Specify) \_\_\_\_\_

## 3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

0 8 0 FIRST FLOWERING 0 8 5 LAST FLOWERING

## 4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN \_\_\_\_\_ 1 = ARTHUR 2 = SCOUT 3 = CHRIS  
0 9 6 NO. OF DAYS LATER THAN \_\_\_\_\_ 3 4 = LEMHI 5 = NUGAINES 6 = LEEDS

## 5. PLANT HEIGHT (From soil level to top of head):

1 0 2 CM. HIGH  
1 5 CM. TALLER THAN \_\_\_\_\_ 3  
CM. SHORTER THAN \_\_\_\_\_ 1 = ARTHUR 2 = SCOUT 3 = CHRIS  
4 = LEMHI 5 = NUGAINES 6 = LEEDS

## 6. PLANT COLOR AT BOOTING (See reverse):

3 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

## 7. ANTHUR COLOR:

1 1 = YELLOW 2 = PURPLE

## 8. STEM:

2 Anthocyanin: 1 = ABSENT 2 = PRESENT 2 Waxy bloom: 1 = ABSENT 2 = PRESENT  
1 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT 1 Internodes: 1 = HOLLOW 2 = SOLID  
0 5 NO. OF NODES (Originating from node above ground) 2 2 CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

## 9. AURICLES:

2 Anthocyanin: 1 = ABSENT 2 = PRESENT 1 Hairiness: 1 = ABSENT 2 = PRESENT

## 10. LEAF:

2 Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 2 Flag leaf: 1 = NOT TWISTED 2 = TWISTED  
3 = OTHER (Specify): \_\_\_\_\_ 2 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT  
1 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT 2 3 CM. LEAF LENGTH (First leaf below flag leaf):  
1 3 MM. LEAF WIDTH (First leaf below flag leaf)

## 11. HEAD:

1 ☒ Density: 1 = LAX 2 = DENSE ☐ Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE  
 4 = OTHER (Specify) \_\_\_\_\_

☒ Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

☒ Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
 5 = BROWN 6 = BLACK 7 = OTHER (Specify) \_\_\_\_\_

☐ ☐ CM. LENGTH ☐ ☐ MM. WIDTH

## 12. GLUMES AT MATURITY:

☒ Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)  
 3 = LONG (CA. 9 mm.) ☐ Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)  
 3 = WIDE (CA. 4 mm.)

☒ Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED  
 4 = SQUARE 5 = ELEVATED 6 = APICULATE ☐ Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

## 13. COLEOPTILE COLOR:

☐ 1 = WHITE 2 = RED 3 = PURPLE

## 14. SEEDLING ANTHOCYANIN:

☐ 1 = ABSENT 2 = PRESENT

## 15. JUVENILE PLANT GROWTH HABIT:

☒ 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

## 16. SEED:

☒ Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL ☐ Cheek: 1 = ROUNDED 2 = ANGULAR

☐ Brush: 1 = SHORT 2 = MEDIUM 3 = LONG ☐ Brush: 1 = NOT COLLARED 2 = COLLARED

☐ Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN  
 4 = BROWN 5 = BLACK

☒ Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) \_\_\_\_\_

☐ ☐ MM. LENGTH ☐ ☐ MM. WIDTH ☐ ☐ GM. PER 1000 SEEDS

## 17. SEED CREASE:

☒ Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'  
 2 = 80% OR LESS OF KERNEL 'CHRIS'  
 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

☐ Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'  
 2 = 35% OR LESS OF KERNEL 'CHRIS'  
 3 = 50% OR LESS OF KERNEL 'LEMHI'

## 18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☒ STEM RUST (Races) ☐ LEAF RUST (Races) ☐ STRIPE RUST (Races) ☐ LOOSE SMUT

☐ POWDERY MILDEW ☐ BUNT ☐ OTHER (Specify) \_\_\_\_\_

## 19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ SAWFLY ☐ APHID (Bydv.) ☐ GREEN BUG ☐ CEREAL LEAF BEETLE

☐ OTHER (Specify) \_\_\_\_\_ HESSIAN FLY RACES: ☐ GP ☐ A ☐ B ☐ C  
☐ D ☐ E ☐ F ☐ G

## 20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Eller	Seed size	none
Leaf size	Eller	Seed shape	none
Leaf color	Eller	Coleoptile elongation	Eller
Leaf carriage	none	Seedling pigmentation	Eller

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggles and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

8200159

Exhibit 13D

A99ar is a normal plant of approximately 1 meter in height. The growing plant is a dark blue green with a rather coarse heavy stem. The heads are beardless, but with a slight very short beard on the tip floret. The heads are long with more than average space between florets. The florets average between 15 and 20 per head. The glumes are elongated with minute beards.

The maturity would average 6-8 days later than Chris. The seed is dark, very large, with a wide angular suture. Protein levels average well above that of Era and slightly above that of Olof and Chris.

A distinguishing characteristic is an occasional (.001%) short bearded small headed plant appearing in the seed fields.

8200159

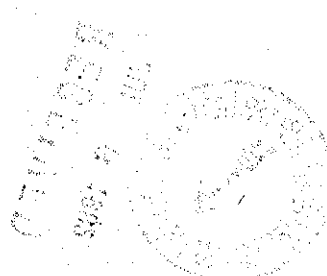
Adaptation:

A99ar is adapted to the Hard Red Spring Wheat areas of the prairie provinces of Canada and the United States, Montana, North Dakota, South Dakota, Minnesota, Wisconsin, and limited areas of Nebraska, Kansas and Colorado.

Breeder Seed will be maintained by Causmex Corporation, under the supervision of the originating breeder staff.

Breeder Seed will be maintained through bulking head selections from individually maintained lines.

Breeder Seed will be used as the source of the foundation seed.





# COMPARATIVE PROTIEN VALUES OF A99ar-1981 TESTS

Tests made by Commercial elevator operator-standard procedure

## A99ar-Seed Increase Fields

Grower: Ken Wetzel	#1	15.1%
	#2	14.1%
	#3	13.7%
	#4	14.0%

Grower: Barnth Bros.	#1	15.4%
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Area average	14.5
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## Era Variety

Farmer:	Paul Gregor	11.3%
	Gene Gerhke	11.7%
	Pat Sheehy	12.0%
	Steve Wesley	11.6%
	Leon Pittman	11.8%

Area average	11.7
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## Prodac Variety

Farmer: Jerry Miller	13.1%
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All tests were made by a commercial grain buyer and are representative of the protien levels for that area (Southern Minnesota) for the indicated varieties. All varieties grown on standard farm conditions.

Verified by:

Marion Deinhart